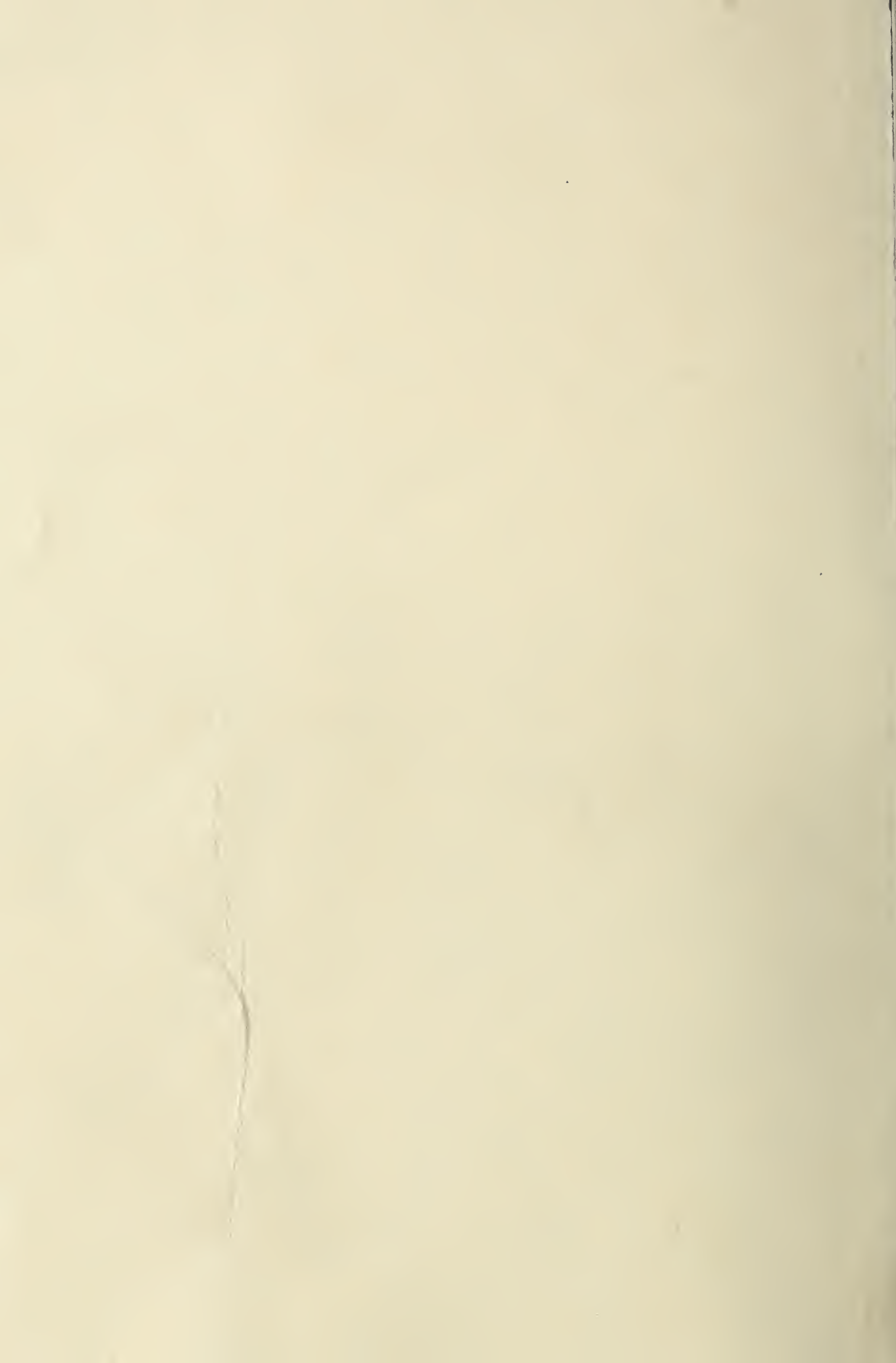


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1923

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J. H. Hale

**High
Grade
Fruit
Trees**
.....
Roses
Etc.

ORNAMENTAL TREES



A Well Kept Peach Orchard

CONCORD NURSERIES

SMITH BROS. NURSERY CO., Propr.

CONCORD, GEORGIA



A Familiar View in a Well Kept Orchard

An Awakening Interest

IT is a great thing and a glorious privilege that we have of surrounding the home with the good and beautiful things our Creator has provided for us. To make a Garden of Eden for ourselves by planting fruit and shade trees, shrubbery, grass and flowers; to inhale their sweet fragrance, to rest in their cooling shade and to feast on the rich, ripe, health-giving fruits. The influence is refining, refreshing, makes us like God's great outdoors better, makes our wives and children happy and content with country life, which is best of all.

More than this, it enhances the value of the farm ten times more than its cost, and makes buyers easy to find should you wish to sell. It means more money, contentment and enjoyment for all members of the home.

Thousands of country people are now awakening to the fact that there is more to be gained in life besides the bare necessities. They are learning that a well kept house surrounded with all things pleasing to the taste is within their reach.

We expect the time at no distant day when every home owner will begin to surround himself with those things which must bring everlasting delight and profit.

We are living in an age of thinking and of rapid progress, and those who sit idly while the procession passes will soon find themselves in the rear and alone.



PRICE LIST

NURSERY STOCK

GROWN AND FOR SALE BY

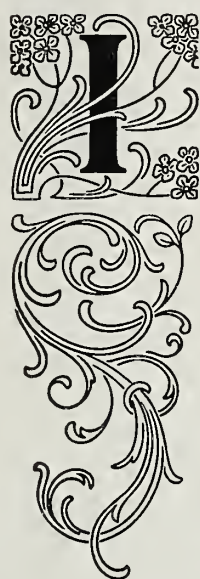
SMITH BROS. NURSERY CO.

CONCORD, GA.

	Each
Apples	\$.75
Peaches75
Pears and Apricots,.....	1.25
Plums and Quinces	1.25
Mulberries	1.00
Cherries.....	1.50
Figs	1.00
Japan Walnuts	1.25
Japan Persimmons and Pomegranates.....	1.25
Pecans, budded or grafted.....	2.00
Grape Vines50
Scuppernong Vines75
Carolina and Lombardy Poplar	1.25
Weeping Willow and Sycamore	1.25
Silver Maple and Texas Umbrella	1.25
Arborvitea.....	1.25
Irish Juniper	1.25
Rose Bushes, field grown	1.00
Magnolia Grandiflora.....	1.25
Amour River Privet, Evergreen12
California Privet10



To Our Friends



It is again our pleasure to present a new edition of our Descriptive Catalogue to our friends and patrons. Our constant policy of fair dealing and strict attention to our business has continued to enlarge our circle of friends and patrons, and to them all, we desire to express our sincere thanks for their patronage and support. The many words of encouragement which we have received are deeply gratifying, and will stimulate us to further and larger efforts in every avenue of improvement.

Where We Are and What We Are

Half-way between Atlanta and Columbus, on the Southern Railway. Our homes, office and packing houses are west, half mile, from the depot. Our 1,400 acres are on all sides of us. Latitude and soils are particularly suited to grow Nursery stock, and our customers may be sure of getting as good as nature and science can produce.

Continuously in the nursery business over 40 years—nearly all our lives—we have been familiar with the intricacies of propagating trees from our boyhood. Millions of trees in thousands of bearing orchards in practically every locality of the south, together with our reputation gained through years of active business, is our guarantee of the high quality of our stock.

Read Before Ordering

Our shipping season opens about November 1st, and except for the coldest days, continues uninterruptedly until April 1st. Send your order at any time, and we will ship when instructed, or at the proper time.

We are well equipped to fill orders for the stock described in this Catalogue. We have all the stock growing in the nursery that we have listed and, with over two million trees and vines, we are well prepared to supply the wants of our customers.

Packing. We pack in boxes or bales. Large lots usually go in boxes, and small shipments in bales. We use only the best of materials in packing, and our workmen are thoroughly trained to the work. We are well prepared to handle your orders, large or small.

Selecting varieties. We can often be of assistance to purchasers in making selection of varieties best suited to their localities. We will be glad to render such assistance whenever desired.

Our terms are cash with the order, or before shipment, except by special arrangement. Large buyers may, with advantage, send us lists of their wants for suggestions as to cost, etc.

How to send money. Send it by Express Money Order, Postal Money Order, Bank Draft or Registered Letter.

Our responsibility. We refer by permission to the Concord Banking Company, Concord, Ga.; American National Bank of Atlanta, Ga.; or the Third National Bank of Atlanta, Ga., and also to the commercial agencies.

Our guarantee. We guarantee all our stock to be true to name, and we will refund money or replace any trees that may prove otherwise; but it is mutually agreed between ourselves and every purchaser that we are not liable for any amount greater than the price paid for the goods.

We do not guarantee our trees to live, but we pack them up in the best condition, and where properly cared for on arrival, they will all live. Careless handling by the planter is the cause of nearly all dead trees. Keep the roots moist at all times, and do not let roots freeze out of the ground. Immediately after planting, cut back tops as directed in latter part of this catalogue.

Conditions. All orders are accepted on the condition that they shall be void should our stock be injured by frost, hail or other causes over which we have no control, to such an extent as to render us unable to fill the order.

Every shipment is accompanied by the official certificate of the State Entomologist, certifying that the stock is free from yellows, San Jose scale, and other dangerous insects and diseases. We fumigate all stock before shipping.

We are but human, and with all our care may make mistakes, which we are glad to correct on notification, but we must ask to be advised within five days from the receipt of the stock of any claim to be made on any account, after which time we cannot consider them.

Salesmen are necessary to the success of any line of business in these pushing times, and they are especially useful in the tree business. If men were left to buy only such trees as they would, of their own accord send to the nursery for, in many instances they would have none. Many a man who today rejoices in the possession of a fine orchard of choice fruits, grounds tastefully laid out and filled with beautiful flowers and shrubbery, would not have these things had not some energetic and faithful agent labored with him and shown him that these abundant sources of pleasure and profit lay within his reach. We believe in salesmen; we have a large force of them throughout the southern states, and we want more of them. If one of them calls on you, give him your order. If you fail to see a salesman for our nursery, we will be glad to have you send in your order direct to us.



CONCORD NURSERIES

SMITH BROTHERS, Props.

Concord, Georgia



SUMMER VARIETIES

The following list of varieties has been selected by us through many years of careful experience. We can recommend them as among the very best and especially suited to the middle and southern states.

✓ **Yellow May.** Ripe early in June. Small, nearly round; pale yellow; pleasant subacid; prolific and hardy; popular on account of its earliness.

✓ **Yellow Transparent.** Ripe early in June. Size medium; light; transparent lemon-yellow; smooth, waxy surface; flesh white, melting and of excellent quality and for an early Apple an exceptionally good keeper and shipper.

✓ **Carolina Red June.** Ripe early in June. Medium to large, oblong, conical, dark red, entire; flesh tender, with a mild, subacid flavor; commencing to ripen early in June and continues six weeks. It is one of the best market varieties of all the early Apples.

✓ **Early Harvest.** Ripe middle of June. Medium to large; roundish oblate; pale yellow, with a rich sprightly flavor. A valuable old variety which is quite a favorite with many.

✓ **Red Astrachan.** Ripe middle of June. Size medium to large; bright crimson, covered with white bloom. An Apple of great beauty and good quality, flesh tender, rich subacid, fine flavor; good grower and productive.

✓ **Sweetheart.** Ripe June 15 to July 15. Originated near Concord, Ga., where some of the original trees are still bearing heavy annual crops. The tree is a strong, rapid grower, free from disease and long-lived. Fruit is of large size, oblong, conical; of deep brilliant red color, with light tints on the side away from the sun. Flesh crisp and juicy, of good flavor.

✓ **All Summer.** Ripe June, July and August. Originated in middle Alabama. Is a strong grower, and seems unusually free from disease. Fruit is medium to large size; of beautiful red color. Begins to ripen last of May and continues until September, thus giving fruit from the same tree all summer, which suggests the name.





Red Astrachan
A Good Grower and Productive

Summer Varieties—Continued

Is recommended for garden or orchard, but not for commercial planting.

Summer Queen. July 15 to 30. Large, oblate-conical; pale yellow, with dull red stripes; rich, juicy and fine.

Grand Republic. Ripe July 15 to August 15. Comes from Southern Georgia. It was a chance seedling. Bears heavily of large, handsome fruit. Quality unexcelled and fine for cooking, eating and commercial purposes.

Kansas Queen. Ripe July and August. Large size; yellow skin nearly covered with crimson. Flesh tender and of excellent quality. Reliable and productive. Equally desirable for home use or market. This apple is especially recommended for the sandy soils through the lower part of the cotton belt.

Horse. Ripe last of July and early August. Large, yellow, occasional blush next to sun; oblate-conical; sub-acid and good. A very popular old variety for cooking, drying and cider.

Shockley. Ripe September and October. Medium, conical; skin yellow, overspread with bright crimson; flesh crisp, juicy, sweet and slightly vinous. Very rapid and compact grower and early bearer, often bearing fruit the second year after transplanting; bears regular and abundant crops.

FOR FIRST-CLASS NURSERY STOCK

First—Honest labeling. Second—Health, vigor and maturity. Third—Careful packing and shipping.



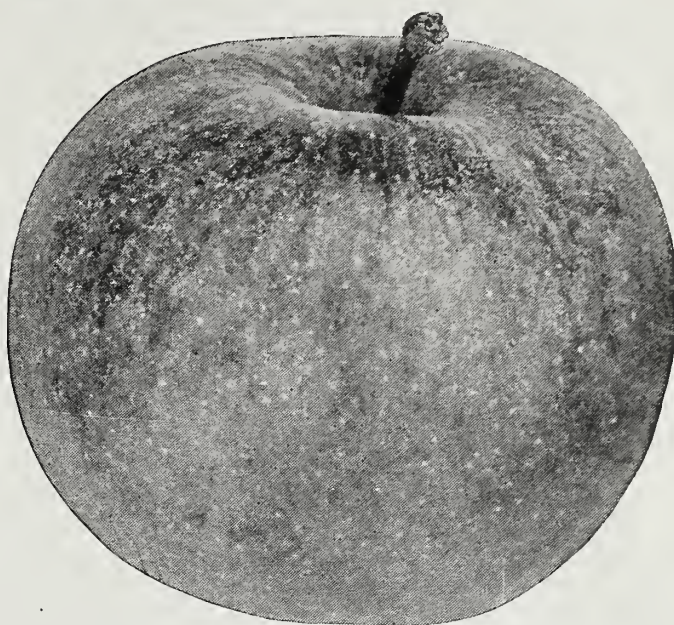
Yellow Transparent

AUTUMN VARIETIES

✓ **Carter.** Ripe August. Medium, oblate; skin yellow, shaded and striped with red; flesh yellow, very tender, crisp and juicy, rich and aromatic. Tree very prolific, luxuriant and a compact grower.

✓ **Buckingham.** Ripe August. Very large, oblate-conical, covered with red stripes and blotches on a greenish yellow ground. The finest of the large autumn Apples.

✓ **Royal Limbertwig.** Ripe, Sept. Very large; yellow skin nearly over-spread with stripings of red. Juicy and of splendid quality and flavor.



Buckingham

WINTER VARIETIES

✓ **Kinnard's Choice.** Ripe September and October. This is a splendid Apple for the early winter months. Fruit medium to large; skin yellow, almost covered with dark red; flesh yellow, fine-grained, tender.

✓ **Grimes' Golden.** Ripe September and October. Medium to large; rich golden yellow; flesh tender, mild sub-acid. Tree hardy, vigorous; an early and abundant bearer.



Black Ben Davis

WINTER VARIETIES—Continued

✓ **York Imperial.** Ripe September and October. At its best from January until April. Large, greenish yellow, nearly covered with bright red. Flesh tender, juicy and aromatic. Heavy bearer and hangs well on the tree. It is a fine keeper.

Winter Banana. Ripe October to April. Bears young. Fruit large; color golden yellow, tinted red on sunny side. Flavor like banana; rich and spicy. Surpasses many other fruits.

✓ **Black Ben Davis.** October to April. The very best apple of the Ben Davis type, and far superior to any of the various kindred sorts. Color solid deep red. Size large. Tree vigorous and productive. In quality the fruit is not the equal of some other apples, but its size and color make it one of the most profitable of all apples for market.

— **Hill.** Ripe October. A chance seedling. Originated near Greenville, Ga., where it has been in cultivation for many years. Fruit is nearly round, of

good size and color. Flesh tender and melting; of best quality. Equally good for home or market use. Seems to be of special merit for our southern section. Makes a good appearance.

— **Suwanee.** Ripe October. Large; roundish pale yellowish green, with russet dots. Flesh yellow and moderately juicy; mild, subacid; very good. Tree a vigorous grower. Ripens latter part of October and keeps through the winter. Originated in the mountains of north Georgia, where it is locally known as the Poorhouse Apple. It has proven to be far superior to the many other good varieties of Apple in the southern states.

✓ **King David.** October to April. Size medium to large, color deep rich red with distinct stripe like markings of very dark red. Originated in Arkansas where it begun bearing at three years old. Resembles Jonathan in both tree and fruit. Surpasses that variety in every good quality.



Delicious

WINTER VARIETIES—Continued

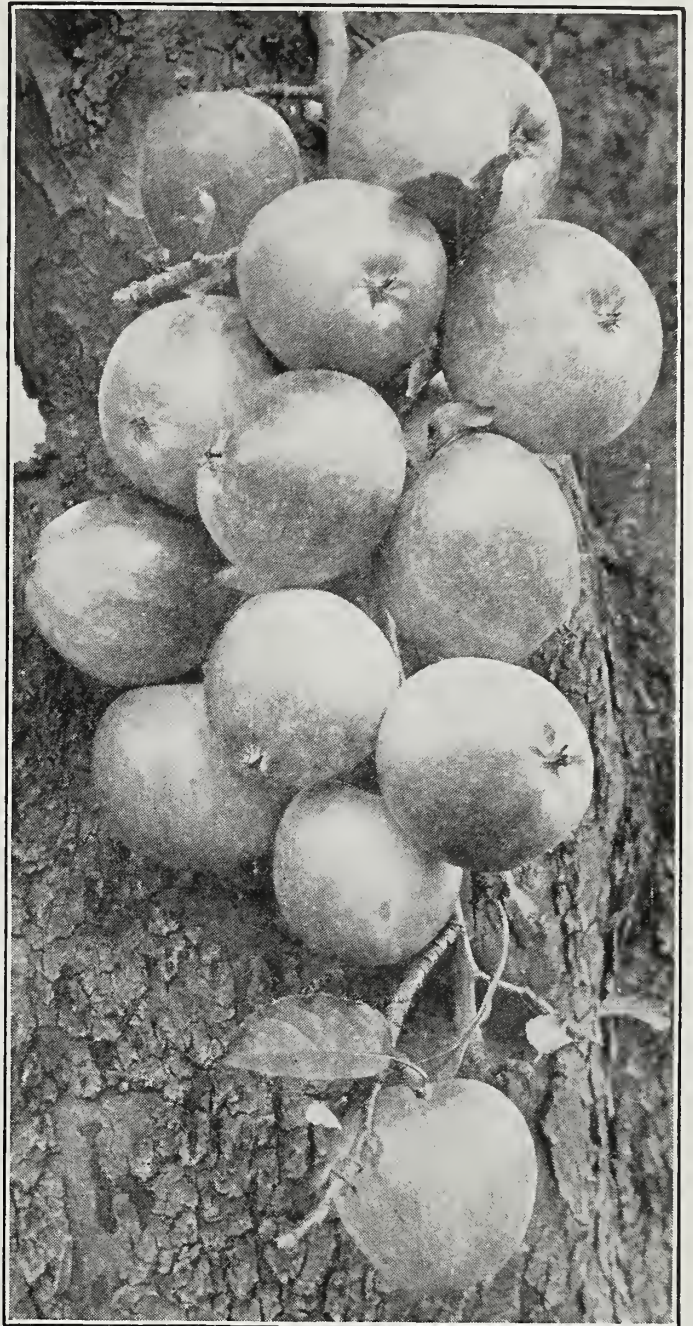
✓ **Yates.** Ripe October. A Georgia variety. Small size; dark red and dotted with white dots; flesh firm, juicy, aromatic; a great bearer and good winter keeper.

✓ **Delicious.** October to April. Of good size, dark red, blending to a golden yellow at blossom end. Oblong, tapering to calyx, with five protuberances around calyx, which is deeply set. Fine grained, juicy, slightly acid, melting. Unsurpassed in quality. Among the best for the home orchard or marketing.

✓ **Rome Beauty.** Ripe September and October. A fine early winter variety. Is at its best October to Christmas. Fruit large, round, yellow, striped with red. Tender, juicy and of fine flavor. Grown chiefly in the West, but eastern growers are finding it a good one.

✓ **Arkansas Black.** Ripe September and October. Fruit medium to large; fine flavor; beautiful dark color, almost black; flesh yellowish, slightly subacid, crisp; one of the best cooking apples; vigorous.

✓ **Stayman's Winesap.** October to April. Originated in Kansas and is a seedling of Winesap. Color dark rich red, indistinctly striped. Flesh firm,



Winter Banana

fine grained, crisp, rich, juicy and tender, and of best quality. Tree strong grower, productive and better in every way than Winesap.

✓ **Terry Winter.** Ripe October. Medium; subacid; quality best; ripens October and will keep until June. Tree hardy and immensely prolific; comes into bearing younger than any other variety; one of the best winter apples for the South. Originated in Clayton county, Georgia. This variety should have a prominent place in every list of winter Apples.



Arkansas Black

CRAB APPLES

Within the past few years much attention has been given to improving this class of fruit, because of their adaptability to all sections. These efforts have been attended with marked success. Crab Apples succeed equally well in all parts of the United States, and are valuable for cider, preserving, jelly, ornament, and some of the improved sorts are excellent for eating. Sent to the southern markets they command a very high price.



Transcendant Crab

Transcendant. Ripe August and September. Fruit large for its class; golden yellow, with a beautiful rich crimson cheek; when ripe the red or

crimson nearly covers the fruit; flesh creamy yellow, crisp, subacid, pleasant. Good grower and very productive.

Our lands are well adapted to the growing of all of the varieties sold by us and this fact together with thorough cultivation and care makes for health, vigor and maturity in all varieties of fruits we grow.



The best and most popular fruit in the south, the peach is found growing, not only about every home, but along old fences and other waste places.

We have carefully selected a limited number of the very best varieties that are especially adapted to the southern states, and where properly cared for, they are sure to give entire satisfaction.

Peaches should be planted on well drained land, away from swamps and other low places. Red, gray or sandy soil is all right for them. Clean culture is important, during the spring especially.

Keep the borers out of the roots, as per instructions on last page of this catalogue, and spray the fruit when it comes, and your reward will be sure and bountiful.

Very Early Varieties

✓ **Mayflower.** Semi-cling. Ripe May 20 to 25. The earliest Peach known. Size medium; round, bright red all over; ripens well to the seed; tender, juicy and of excellent flavor. Tree bears young and is very prolific. Aside from its desirability in the home orchard, it is a valuable acquisition to the market varieties, as its earliness and beautiful bright color will make it a good seller, bringing good prices.



Mayflower

✓ **Victor.** Semi-cling. Ripe May 25 to 30. A vigorous grower, early and prolific bearer. Fruit medium size, light pink, with deeper shade next to the sun. Ripens thoroughly to the seed and is of excellent flavor.

✓ **Sneed.** Semi-cling. Ripe May 30 to June 5. Medium size; creamy white, with blotches and pale red cheek. Ripens well to the seed; juicy and of good flavor. Tree thrifty, spreading; an early and prolific bearer. The most extensively planted, and one of the best of the very early Peaches.

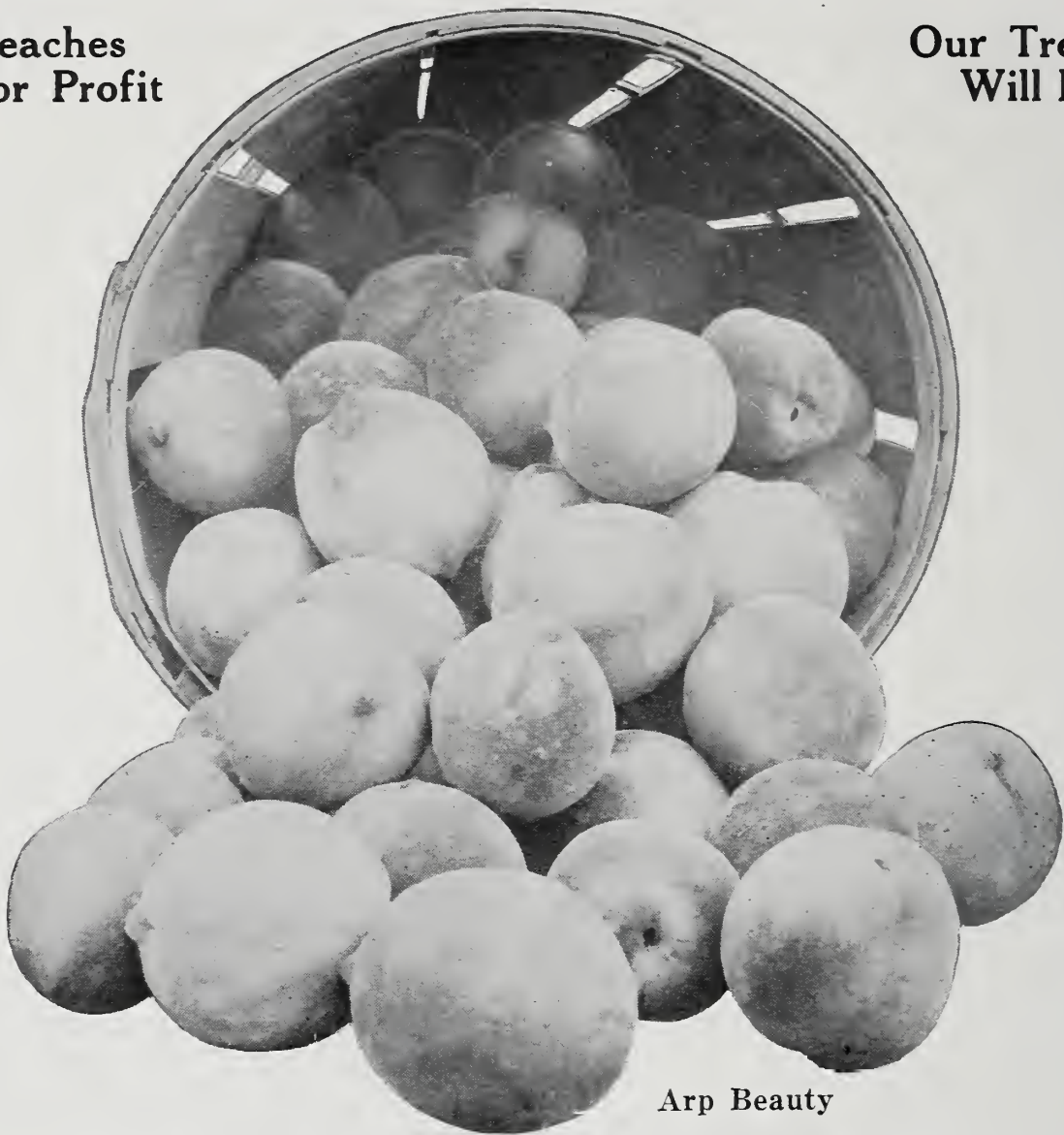
✓ **Uneda.** Semi-cling. Ripens about a week after Mayflower. Of good size, flesh firm, meaty and of fine texture. Color, pinkish white on under side and bright crimson next to sun. This is the best peach of its season, and is the first peach to ripen that really comes up to the standard of a first class peach. This is the best early market variety, and is equally good for the home orchard.

Second Early Varieties

✓ **Red Bird Cling.** Ripe June 1st. Large, deep red all over; flesh very

**Plant Peaches
for Profit**

**Our Trees
Will Produce**



Arp Beauty

firm; flavor like White English; fine shipper.

Alexander. Cling. Ripe June 10. One of the old early sorts. Handsome appearance, and in dry seasons ripens well; should be well sprayed to keep off brown rot.

Greensboro. Semi-cling. Ripe June 1 to 10. Beautifully colored with light and dark red, shaded with yellow, which makes it a great beauty. Size large for so early a Peach; ripens perfectly to the seed from which it parts clear when fully ripe. This is a good shipper, as it can be picked while very firm, packed and transported; then it will ripen up and color finely after it has reached the retailer or customer.

Admiral Dewey. Free when full ripe. Ripe June 15. Yellow flesh, with reddish yellow skin, with deeper tint

next to sun. Where well sprayed and thinned it is one of the best early sorts, and is the first free stone.

Arp Beauty. Semi-cling. Ripe June 1 to 10. Fruit of large size, oblong, yellowish red color; of good flavor and quality. Tree vigorous and productive. It has no superior for its season of ripening. One of the best early market Peaches, and is equally desirable in the home orchard. No one can make a mistake in planting it, and no orchard is complete without it.

Waddell. Free. Ripe June 25 to 30. A new Peach originating in Spalding county, Georgia. Size medium to large. White, with blush on the sunny side. Flesh rich and melting and ripens up thoroughly. Unusually free from rot. Trees bear very full. Around Griffin, Ga., where this Peach is best known, it is the

most popular Peach of that season. Nets more money than many other sorts.

Early Rose. Clingstone. Ripe middle of June. Fruit brilliant, beautiful red all over. Flesh fine grained, tender and of best quality. Tree vigorous, hardy and an early bearer. Tends to overload and should be thinned. Where this is done, the most beautiful peaches can be grown. They carry well and bring the very top prices in the markets.

Early Summer Varieties

Early Rivers. Cling. Ripe June 20. White skin, red cheek; tender and very juicy.

Mamie Ross. Semi-cling. Ripe June 20 to 30. This is a new June Peach from Texas, similar to Carman. It is planted largely in the market orchards of Texas and by many it is regarded as the best early market Peach. White, with red cheek; nearly free-stone when fully ripe. Prolific and of good quality.

Governor Hogg. Free. Ripe June 25 to 30. Very large and handsome, nearly white or a cream-colored white nearly covered with red. Its large size, beauty and earliness combine to make it one of the finest Peaches of its season for home use or for the markets. This new variety is from Texas and was named for a governor of that state.

Carman. Semi-cling. Ripe June 20 to 30. Large, yellowish white, dotted and flushed with red; flesh creamy white, tinged with red. Very similar to Elberta in growth of trees and size and shape of fruit, but ripens about 20 days earlier. It is a splendid shipping Peach, and is being largely planted by the commercial orchardists for market.

Hiley. Free. Ripe July 1 to 5. An early and heavy bearer. Fruit large; white, with red cheek of high color. Quality good. One of the most valuable market varieties.



Greensboro

Yellow St. John. Free. Ripe July 1 to 5. Medium to large size; orange-yellow, with deep red cheek. Flesh yellow, juicy and good, of excellent flavor. A fine Peach for the home orchard, and is now being planted largely for market.

Mid-summer Varieties

Belle of Georgia. Free. Ripe July 5 to 10. Very large; skin white, with beautiful blush; good quality; uniformly fine and showy. It is an early and regular bearer. It is largely planted for the northern markets.

Elberta. Free. Ripe July 15 to 25. Very large; skin golden yellow where exposed to the sun, faintly striped with red; flesh yellow, very fine-grained, juicy, rich, sweet and splendidly flavored. Tree very prolific and presents a handsome appearance. Luxuriant grower. It is a perfect free-stone, and one of the most successful market varieties.

J. H. Hale. Freestone. Ripe July 25. Yellow flesh, yellow skin overspread with reddish yellow, deepening to a glowing red next to sun. One-third larger than Elberta; good flavor, splendid shipper. Almost free from fur, which gives it a clean, handsome appearance. By far the finest peach

ever introduced, and when better known will replace Elberta entirely, both ripening about same time.

Chinese Cling. Cling. Ripe July 20 to 25. A favorite Peach; of large size; creamy white, with beautiful blush; flesh of the very highest quality; indeed the standard of richness among Peaches.

Emma. Free. Ripe July 25 to 30. Very large, yellow with light crimson cheek; flesh yellow, fine-grained, very juicy, quality among the best. In maturity it follows immediately after Elberta. Where this Peach has been shipped to the market it has always commanded an extra price.

Mathews Beauty. Free. Ripe August 1st. Very large, yellow, with deeper tint on sun side. A very fine peach for all purposes.

Oxford. Ripe August 1. Cling-stone. Size medium to large. Color pink, shading to bright red, with reddish tinge through flesh and red around the seed, which is very small. Flesh firm and of fine texture, and excellent flavor.

Indian Blood. Cling. Ripe August 1 to 10. Medium, round, dingy red with red veins; flesh dull red; tender, melting; of best quality.

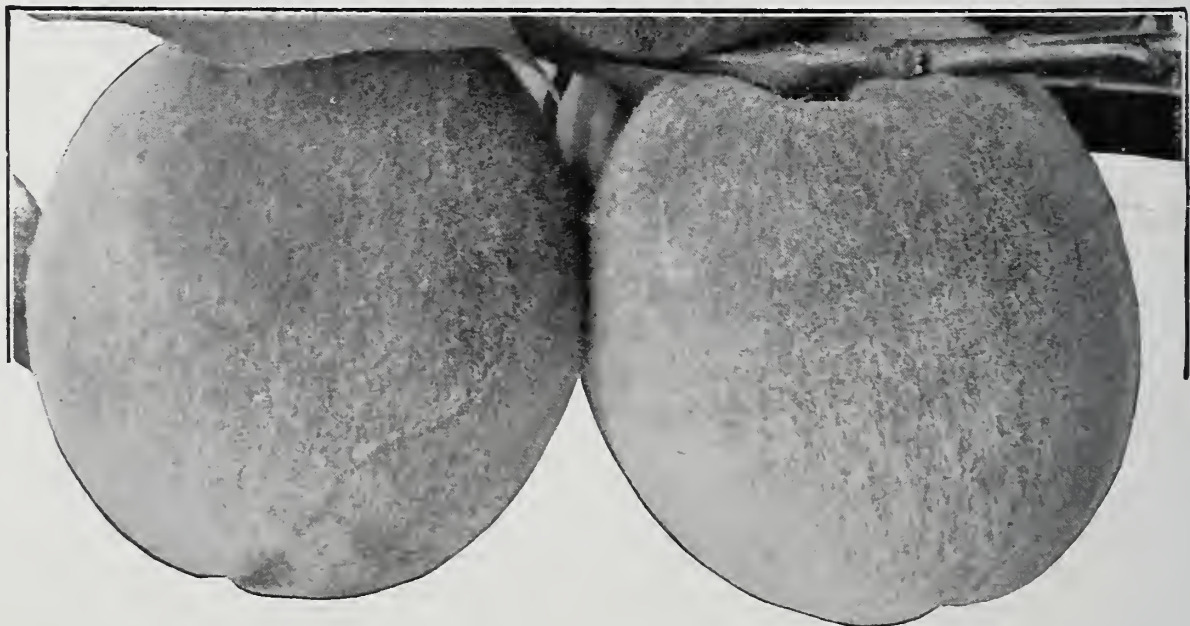
Lemon Cling. Cling. Ripe August 5 to 15. The best type of the old



J. H. Hale

Lemon Peaches. Medium, oblong, with long pointed end. Yellow, with shade of light red where exposed to the sun. Flesh yellow, tender, melting, juicy; of excellent quality.

Everbearing. Free. Ripe July and August. It matures and ripens its fruit over a period of about eight weeks, beginning to ripen about July 1. Fruit in all stages of development may be seen on the trees at the same time. Of the Indian type. Fruit of good size, light purple with pink veins; good flavor.



Belle of Georgia



Emma

Autumn Varieties

✓ **Salway.** Free. Ripe August 15 to 30. Large; yellow; handsomely mottled, with brownish red cheek; flesh deep yellow; juicy; very good; very productive.

✓ **Chair's Choice.** Free. Ripe August 15 to 30. Originated in Anne Arundel county, Maryland. Fruit of very large size, yellow, with a red cheek; flesh yellow, firm and of good quality; tree a strong grower and a good bearer.

✓ **Eaton's Golden.** Cling. Ripe September 15 to 30. Large; yellow; with a peculiar fine apricot flavor. It is the finest yellow cling to ripen during the last half of September. Those who prefer a white peach will find this an equal in other respects to the finest yellows.

✓ **Bilyeus Late.** Ripe September 15 to 30. Fruit of large size; color white with beautiful blush on cheeks. Flesh white and of excellent flavor. Freestone.

✓ **King Solomon.** Free. Ripe September 15 to 30. Of good size, yellow, round, juicy and of good quality. Original tree died in Harris county, Ga., a few years ago at the age of about 70 years. One of the best late Peaches.

✓ **Gordon.** Cling. Ripe September 15 to 30. One of the best late Peaches. Very hardy and prolific. Fruit good size, beautiful yellow color, firm texture and good flavor. Ships well, and sells well.

✓ **White English.** Cling. Ripe latter part of September. Of good size; skin between white and yellow; flesh white, firm, fine texture, juicy and of excellent flavor. There are several types of the White English peach, as is well known. All have their merits, but none will measure up to the one we are now offering. There has been a strong demand for many years for the true White English peach, and after looking over the field for nearly 40 years, we have found it.

✓ **Henrietta.** Cling. Ripe October 1 to 15. Large oval, with sharp apex; skin creamy white, very seldom with any red; flesh pure white to the stone, juicy and sweet, with good aroma; very popular for preserving. This peach not only cooks up in an attractive color, but has a flavor which could not be better for the purpose.

✓ **Stinson's October.** Cling. Ripe October 1 to 15. Large; white, with showy red cheek; flesh white and of fine flavor. One of the best and most popular late Peaches.

✓ **Allbright.** Cling. Ripe October 15 to 25. Small and handsome; color white, changing to light orange; of fine quality, juicy, sweet and rich. In fact, it makes up for its lack of size, by having the very finest flavor.



Pear trees have a long life and are not much subjected to insect and fungus attacks. With modern methods of treatment they do great work.

We offer only a few varieties that are specially adapted to the middle and southern states. Give them good soil, clean cultivation and liberal fertilizing and they will pay you handsomely. They usually bear at two or three years old and rarely fail to make a crop of fruit.

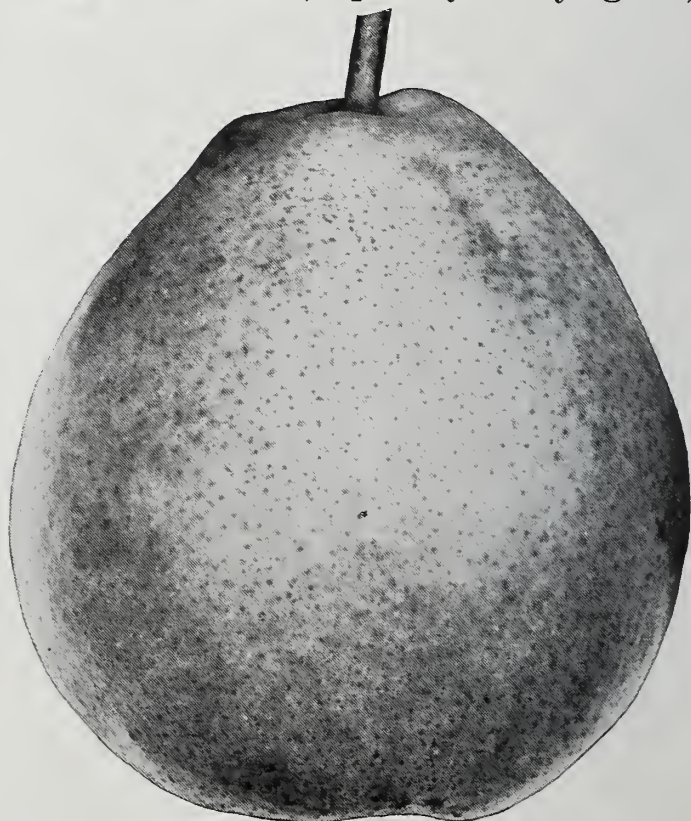
Golden Russet. Ripe September 10 to October 1. The most beautiful of all the oriental varieties of Pears. The fruit is of medium size; roundish or apple shaped, of a rich golden bronze color, as handsome on the tree as oranges. It bears at two or three years after planting, and is very profitable and a sure bearer, as it blooms later than other varieties. It has superior qualities for preserving. Makes a fine ornamental tree on any lawn, where, at bearing time, there is excellent fruit also.

Magnolia. Ripe October 1 to 20. A new Japanese variety of great merit. Its marked points of superiority are its large size, late-blooming, long-keeping, strong-growing and free-bearing qualities. Attains enormous size, of fine appearance and good flavor. Usually blooms after all danger of frost is past, making crops sure and of such a grade as will sell readily for good prices, if not all are wanted for home use.

Kieffer. Ripe September 10 to 30. This Pear was grown from seed of the Chinese Sand Pear accidentally crossed with the Bartlett or some other kind grown near it. Tree has large, dark green glossy leaves and is of itself very ornamental; is an early and very prolific bearer; the fruit is

of good quality; wonderfully showy and is valuable for the table and market; it never rots at the core, and is as nearly blight-proof as it is possible for any Pear to be. There is an established market for all the Kieffers offered. Many growers depend on them for their entire income.

Koonce. Ripe middle of June. Fruit medium to large, handsome; surface yellow, one side covered with bright carmine; quality very good,



Garber

spicy, juicy, sweet. A vigorous grower, and so far has never shown any sign of blight. Very productive; annual bearer.

✓ **Le Conte.** Ripe middle to last of July. Fruit large; skin greenish yellow; flesh white and melting; quality medium; excellent for evaporating and canning. It is noted for its productiveness and rapid growth.

✓ **Bartlett.** Ripe August 1 to 15. Large; yellow, with a soft blush on the sunny side; flesh white, exceedingly fine grained and buttery, sweet, very juicy, with a highly perfumed, vinous flavor. This is justly esteemed

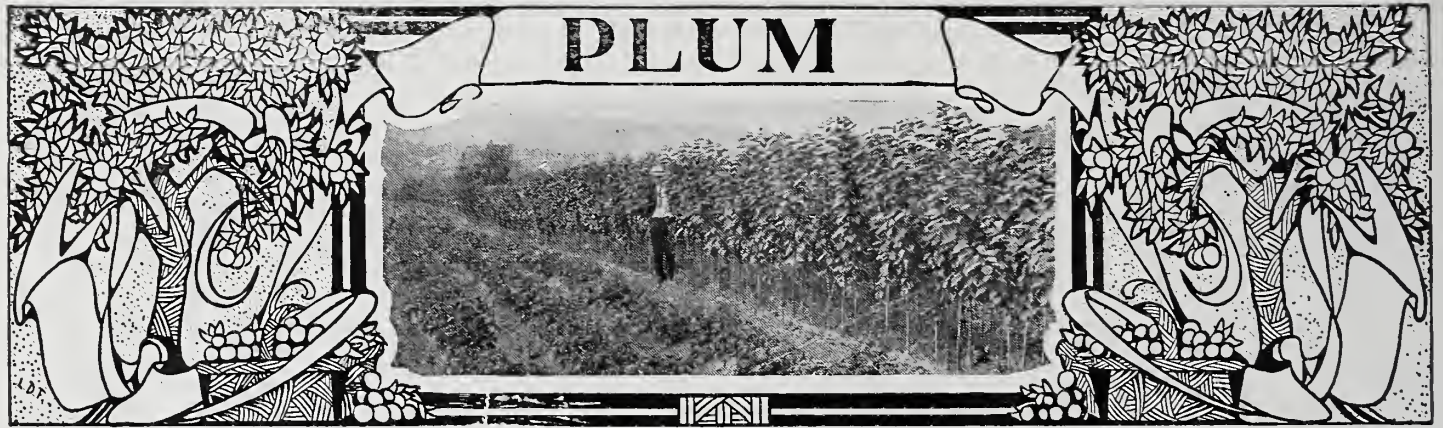
one of the very best Pears in cultivation, and deserves a place in every collection; bears early and well.

✓ **Garber.** Ripe middle to last of August. This Pear is much like the Kieffer in every respect, except that it ripens earlier. It makes the connecting link between the Bartlett and Kieffer. The Garber, as compared with Le Conte, is a little later, better flavored, holds up better in shipping, resists blight much better, blooms out later, which enables it to escape more late spring frosts, and, like the Kieffer, has practically an unlimited area, doing well both north and south.



The Celebrated Kieffer Pear

Very productive and its wonderful health and vigor make it one of the best for shipping



The Plum is one of the best and most satisfactory fruits that can be grown in this country. They grow off rapidly, bear the second year and are very prolific. The fruit is juicy, richly flavored and liked by everybody.

In this list we offer a few of the best varieties. They will make fast friends of all who grow and eat them.

Moncelt. A new Plum from South Carolina. Large size, deep rich red; flesh highly flavored and melting. Free from rot and a long keeper, which makes it a fine shipper. One of the finest plums ever introduced. Ripe June 15.

Milton. Ripe June 1 to 10. Much like Wild Goose in growth of tree and in fruit, but far surpassing it in every respect. Early and heavy bearer. Fruit large, brilliant red and of excellent quality. Among the very best of all plums.

Red June. Ripe June 10. A vigorous, upright, open grower. Fruit large, conical, with deep stem cavity. Color deep coppery red, almost purple when thoroughly ripe. Flesh yellow, juicy, firm; stone small. Of excellent quality. Enormously productive, with no rot, makes it a leader among the market varieties.

Botan (Abundance, or Yellow-fleshed Botan). Ripe June 20. Growth erect, slightly spreading. Leaf broad, glossy and green, makes it desirable for yard or lawn. Fruit bright yellow, almost covered with red. Flesh yellow.

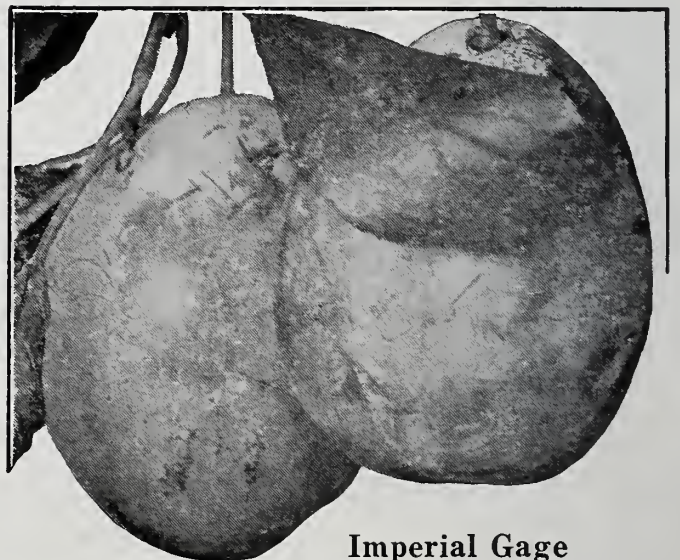
Burbank. Ripe July 10. Habit spreading, tree healthy, rapid grower and vigorous. Fruit medium size, yellow, overspread with red, with lilac bloom. Yellow dots small and numerous. Flesh firm, yellow, quality good.

Hangs well on the tree and is a good shipper. It usually overbears, and should be thinned. Probably better known than any other sort.

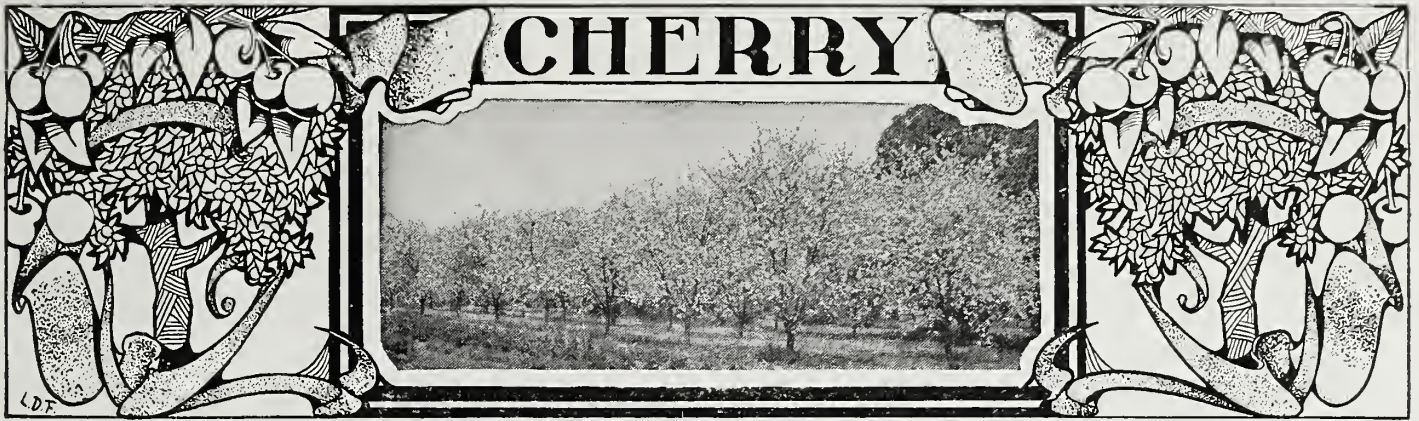
Wickson. Ripe July 20. Growth tall, slender. Leaf medium, deep green. Fruit enormous, pointed, light red. Flesh yellow, meaty, firm. Quality best. This plum is well known and is a sort usually found in the city markets when buying fresh fruit.

Imperial Gage. Ripe July. Skin and flesh greenish yellow, melting, rich and best quality. Tree upright and vigorous.

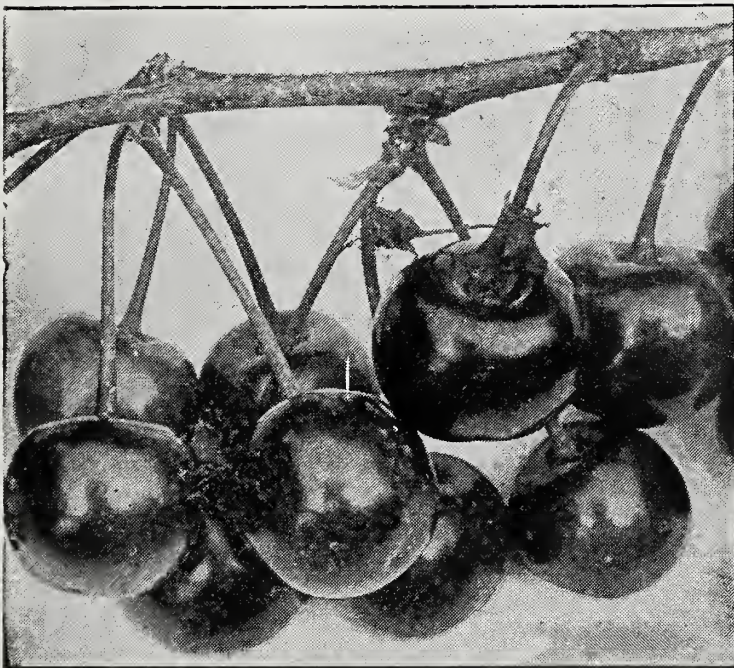
Shropshire Damson. Ripe July. One of the best for preserving. Juicy and spicy; tree vigorous, hardy and abundant bearer. Well known and liked everywhere.



Imperial Gage



The Cherry succeeds well through the northern half of Georgia, Alabama, Mississippi and Carolina, but farther south they are rather uncertain. If our farmers could see such cherries as they grow in the Northwest and in the lake belt, they would be much surprised. They grow as sure here. The varieties listed have proved to be the best for this latitude.



Early Richmond

✓ **Early Richmond.** One of the most satisfactory varieties for the South. Fruit of beautiful dark red color; pleasantly acid, of good quality. Ripens in May and June.

✓ **Black Tartarian.** Fruit of large size, almost black, tender, sweet and of best quality. A general favorite. Ripens in May and June.

APRICOTS

✓ **Golden Apricot.** Ripe early in July. Small; pale orange, juicy and sweet. Tree hardy, rapid grower and very productive.

POMEGRANATE

The Pomegranate is quite hardy throughout the southern states. It is a large shrub or small tree, very graceful in form and foliage, producing a profusion of strikingly brilliant and lovely scarlet flowers. It bears young, is prolific and the fruit possesses a fresh crispness, delicacy and sprightliness of flavor much esteemed by many. It should be more generally planted. Large, oval shape, with crimson blush next to the sun. Flesh juicy, of excellent flavor.

QUINCES

The Quince is a well-known, hardy trees of small size, crooked branches, and a spreading, bushy head. While it does well in nearly every soil, it will respond to a liberal tressing of manure each year.

✓ **Orange.** Fruit large, roundish, bright golden yellow; excellent flavor. One of the most valuable standard sorts. Ripens September.

Everbearing Mulberries

But few know the value of this wonderful and prolific fruit. For poultry and hogs there seems to be nothing better. Some who have them in bearing claim that one trees is worth a barrel of corn each year while the care and space it will require is

Mulberries—Continued

much less. The trees commence bearing when very young. Usually in full bearing the fourth year. Fruit commences to drop in May and continues several months. Hogs and chickens do wonderfully well on them. We offer only the Hicks, which is by far the best of all varieties.

PERSIMMONS

Japanese Persimmon. Tree a moderate grower, never reaching large size like our native Persimmon. Begins bearing in 2 or 3 years, and often fruits heavily in the nursery. Very prolific. Fruit very large, deep yellow, and usually without seed, and being edible throughout. Of excellent flavor when ripe. Succeeds well as far north as Macon, Montgomery and Meridian, and may be grown with some success throughout the cotton belt.

FIGS

Figs do well most everywhere in Georgia and many other southern states. They require but little cultivation and this should always be shallow, as the roots run very near the surface. No family in the south should be without at least a few trees of this delicious fruit. A great many food experts suggest the use of figs as food instead of meat and pastry. They are rich in nutriment and have the health-giving properties of fruit and vegetables.

Brown Turkey. Medium size; color brown; fruit sweet and excellent quality. Tree very prolific and hardy. One of the hardiest and best sorts. Ripens from June to October. Trees begin to bear at two years.

Celestial. Medium; pale violet, with bloom; sweet and excellent; prolific. Hardest of all Figs.

NUT TREES

PECANS

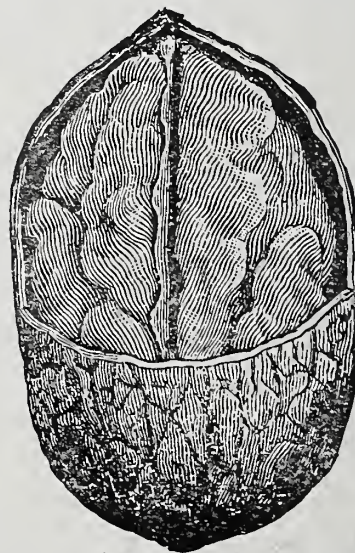


Pecans

Budded and grafted Pecan trees begin bearing at from three to five years, and at from 6 to 8 years will be producing heavy crops of nuts. In addition to this they make a handsome and long lived shade tree, and a few at least should be planted about

every home. They succeed throughout the cotton belt and even further north.

We carry a good stock of budded and grafted trees in the leading vari-



eties, such as Stuart, Schley, Pabst, VanDeman, Moneymaker, Mobile and others.



Japanese Walnut

WALNUTS

Japanese (*Juglans Cordiformis*). This is the very best of several varieties of Japan Walnuts. Begins bearing in 3 to 5 years; immensely productive, rank and vigorous grower, and makes an ornamental as well as a good shade tree. The nuts are borne in clusters of 10 to 20. Nuts

are medium size, pointed and usually heart shaped. Shells are rather hard, but by setting them on edge and not striking too hard they will break open in halves and the meat comes out whole. Of excellent flavor, and one of the most desirable of the entire nut family. Perfectly hardy through the southern half of the United States.

For shade trees, plant Nut trees. They develop about as quick, and in addition to shade and ornament, they give continuous crops of rich, luscious and valuable food.

GRAPES

Grapes usually come into bearing the second year from planting. They require but little space, and where properly cared for, are an ornament to the yard, garden or field. They never fail to produce fruit, which can be profitably used in many ways. It is stated by eminent physiologists that they take first place among all fruits in properties that tend to health and vigor in the human system.

Moore's Early. Ripe July 5 to 15. Black. A thrifty grower, bunch medium, berry large, covered with blue bloom. Quality good. Among the best of the early Grapes.

Ives. Ripe July 10 to 20. Black. Generally considered one of the most valuable early varieties for market. One of the hardiest; strong grower; very productive; stands shipping well; sweet, of fair quality; large; berries medium, black. A popular wine Grape.

Delaware. Bunch compact; berry medium; light red; quality best; moderate grower, but vine very healthy; very prolific and more free from disease than any other variety. The most popular Grape grown; unsurpassed for table and for white wine.

Lutie. Ripe July 10 to 20. Red. One of our earliest red Grapes; very prolific; strong grower; berry large, juicy and of fine flavor; bunches large and handsome. Fine table Grape.

Niagara. Ripe July 15 to 25. White. Strong, thrifty grower; bunches and berries large. An early and abundant bearer. Excellent quality. The best and most popular of the white Grapes.

Norfolk. Ripe July 15 to 25. Red. Strong grower, thrifty and hardy. Bunch and berry of medium size. Dark red when fully ripe. Of excellent flavor. Much like Catawba.

Concord. Ripe July 20 to 30. Black. Bunch and berries very large; blue-black, with bloom; skin thin; flesh sweet; pulpy, tender; quality good; very prolific and a good grower. One of the most reliable and profitable.

Scuppernong. August and September. White. Bunches small, berries large and round; skin thick. Flesh pulpy, juicy, of splendid flavor. Free from rot, rapid grower, immense bearer; good for wine making.



Concord



SHADE AND ORNAMENTAL TREES, ETC.

Cedrus Deodora (Himalayan, or Deodar Cedar). The great cedar of the Himalayan mountains. A stately tree, attaining great size in old age. Foliage glaucous green; branches feathery and spreading; perfectly adapted to the southern half of the United States.

Cedrus Atlantica (Mount Atlas Cedar). Native to the Atlas mountains in north-west Africa. Similar to Deodora, but more compact and darker green. Hardy in the southern states.

Cedrus Libani (Cedar of Lebanon). Native of upper Palestine, and the same cedar that was used by Solomon in the building of his temple. In growth and appearance it is much like Deodora. Hardy in the southern states.

The three above cedars are called by botanists the "true cedars." They are the most beautiful and grandest of all conifers.

Privet, Amour River. Leaves small with a multitude of tiny limbs and twigs. Strong vigorous grower, and will make a nice hedge in 2 years. A perfect evergreen, and the best of all Privets for the south.

Privet, California. A strong, vig-

orous, symmetrical grower, with glossy, heavy foliage. Holds its leaves until late in fall, and starts again with first breath of spring, but is not evergreen.

All kinds of privet should be planted about 10 inches apart for hedges. Stir soil deep and thorough, and if not already rich, fertilize liberally



Amour River Privet



Umbrella China Trees

with compost, lot or rotted stable manure, mixing well with soil. As soon as planted cut plants off to within 2 inches of the ground. Begin trimming as soon as growth is well started in order to thicken hedge near ground. Don't be afraid to trim, and don't be uneasy about it getting high enough. Start right and a beautiful, lasting hedge is assured.

Poplar, Volga. From the Volga river in Russia. Growth and foliage much like Lombardy poplar, but holds its foliage well, which takes on beautiful hues of red color in the fall.

Poplar, Carolina. One of the most rapid growing of all shade and ornamental trees. Should have rich, moist soil to do its best.

Poplar, Lombardy. Native of Europe. Remarkable for its erect growth and tall spire-like form. Rapid grower and makes a handsome tree.

Maple, Silver. A rapid, strong grower. Suited to any soil or climate. Attains large size and is long lived. Foliage dense, clean and glossy. A

most desirable tree for quick and permanent shade and ornament.

Sycamore. A very handsome, rapid-growing tree; leaves are very broad, and the tree produces a fine shade. Makes a fine tree to plant on the streets, as well as around the home.

Umbrella China Tree. A sub-variety of the China Tree. It assumes a dense, spreading head, resembling a gigantic umbrella, and is of unique appearance.

Willow, Weeping. Most graceful and beautiful; of rapid growth, attaining a large size, succeeds in any good soil.

Juniper, Irish. Very compact, trim and shapely. Slender and spire-like in habit. Stately and handsome. Used largely for cemetery planting.

Arborvitae, Golden (aurea nana). Dwarf, symmetrical, compact. Twigs and foliage beautifully formed. Desirable for window boxes and vases. Perfectly hardy throughout the south. Color light yellow, deepening in winter.



Golden Arborvitae



American Arborvitae



Cedrus Deodora

Arborvitae, American. A well known native species of great value, forming an upright conical tree of medium size. Desirable as a formal specimen, or for screens and hedges.

Arborvitae, Chinese. Most elegant and charming, and justly becoming the most popular of the Arborvitaes. Beautiful golden foliage and the compact and regular outline render it unusually attractive.

Magnolia, Grandiflora. Queen of all flowering evergreens. Broad, rich foliage. Flowers immense, pure white and fragrant. The flowers begin to open in May, which is the principal blooming season, but they continue to bloom sparingly throughout the summer and fall until frost. We have had them open on our grounds as late as November 20. The tree usually begins blooming at four to five years. The most magnificent of all our southern evergreens. Rather difficult to transplant and requires special care to insure that they will grow. Remove the leaves when you plant.

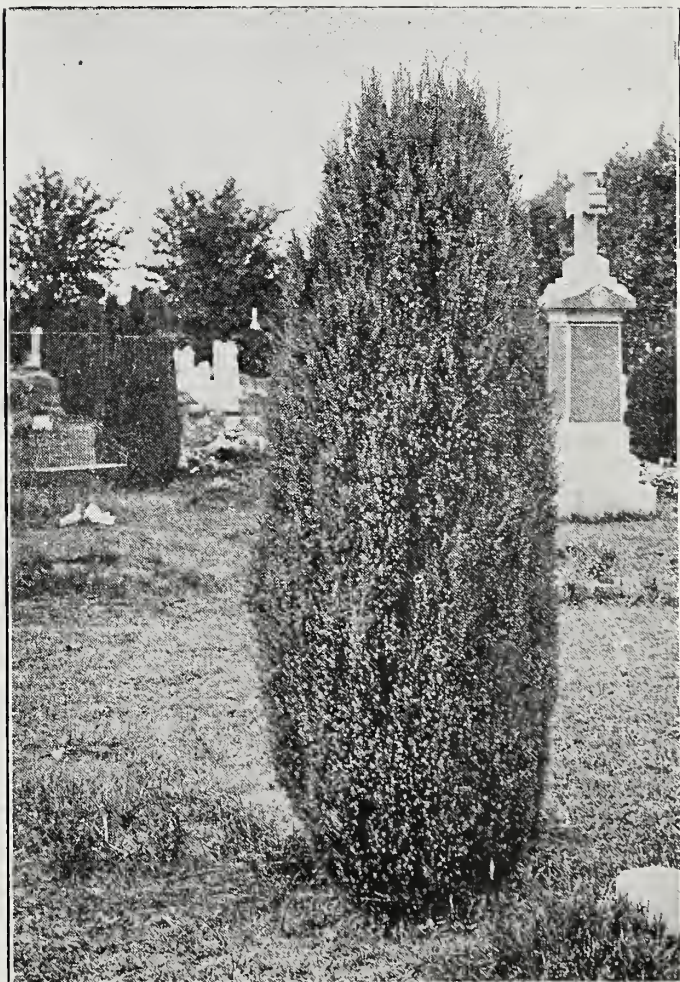
Althea. Six distinct colors.

Calycanthus. (Florida Sweet Shrub).

Deutzia. Pride of Rochester.
Snowball.

Spirea. White.

Wisteria. White and Purple.



Irish Juniper

ROSES



Souvenir de France



White Maman Crochet

The Rose is the most satisfactory, and one of the most beautiful of all flowers. In the South here it is especially prized, because of its hardiness and long blooming season. It is easy to cultivate, will grow in almost any kind of soil, and after once getting a good start, it needs very little attention. The varieties offered by us are all everblooming, beginning to open their flowers in April, and continuing until November and December. We have selected these varieties from a long list that we have thoroughly tested, and can offer them to the public as an unexcelled collection that will give general satisfaction everywhere.

The plants we offer are strong two-year-old, field grown, and are ready for immediate blooming.

Papa Gontier. A fine, free grower, has an exquisite bud, open semi-double. Color dark carmine flushed with crimson. A rose that everybody likes. Among the choicest red Roses ever introduced.

Souvenir de France. The Gold Medal Rose of France, and claimed

by the originator, J. Pernet Ducher, of Lyons, France, to be the finest rose he has ever sent out. The flowers are large, borne on good long stiff stems. Color clear, red-crimson velvet. It is a good grower, free bloomer, fine rich color and very fragrant. What more can be said of a rose?

White Maman Cochet. A vigorous grower and a free bloomer; makes a magnificent white Rose of large size. The buds are long and finely formed, and are produced on long stiff stems.

Vick's Caprice. The striped rose. Its great beauty is impossible to describe. Flowers of enormous size that are perfectly double to the center and of perfect form. It is very fragrant, and its color is a deep, satiny pink, with numerous stripes of pure pink and wide stripes of pure white, making it the oddest and most unique Rose in cultivation. The bush, while not an extreme grower, will be found quite satisfactory.

Paul Neyron. Flowers of immense size, often five inches in diameter. It is the largest Rose that grows. Color deep, clear rose, very fresh and pretty; the plant is a strong, healthy grower, with clean, glossy foliage, and is one of the most prolific bloomers in the hybrid class, young plants in the nursery rows blooming almost without intermission from May to late November.



Paul Neyron

Malmaison. Strong, healthy grower. Flowers large and double to the center. A profuse and constant bloomer. Standard for thirty years.

Pink Maman Cochet. Much like the White Maman Cochet, except it is pink. Buds beautiful, full and pointed; open flowers very large and fine. One bush is worth a whole garden of common plants.

Meteor. Dark velvety red. Large, fine-shaped flowers. A very free bloomer and one of our best and most reliable red Roses.

Helen Gould. Color a warm, rosy red; the flowers are very large, full and double; the buds are fine; the bush is hardy and grows rapidly. It is a splendid new red Rose. Try it and you will be pleased.

Aurora. A very large and fine pink Rose. The flowers are thought by some to resemble the chrysanthemum. This new Rose comes to us highly recommended.



Helen Gould

Madam Abel de Chatenay. A good grower. Fine in bud and flower, large and full. Petals recurved, and of a beautiful creamy rose color, tinged salmon. Bright and fine.

Antoine Rivoire. Flowers very large and full, resembling a camellia; color rosy flesh, shaded with a border of carmine. A remarkable colored and very beautiful Rose.

Safrano. A very strong and rapid grower. Long, slender, pointed buds. A bright apricot-yellow, changing to orange fawn. Open flower semi-double. An old favorite and popular wherever known.

CLIMBING ROSES — EVER-BLOOMING

Marechal Neil. Deep yellow; very large, very full, globular form; delightfully fragrant; the finest of all yellow Roses. In the North this Rose is of delicate constitution and re-



James Sprunt

quires careful treatment to get good results; here it is at home. A strong, vigorous grower, producing magnificent flowers at all seasons in great abundance. It should have the first place in every collection.

Gainesboro. Another magnificent new climbing everbloomer. Strong grower and free bloomer. The flowers are almost white, with a delicate shading of pink; unusually handsome.

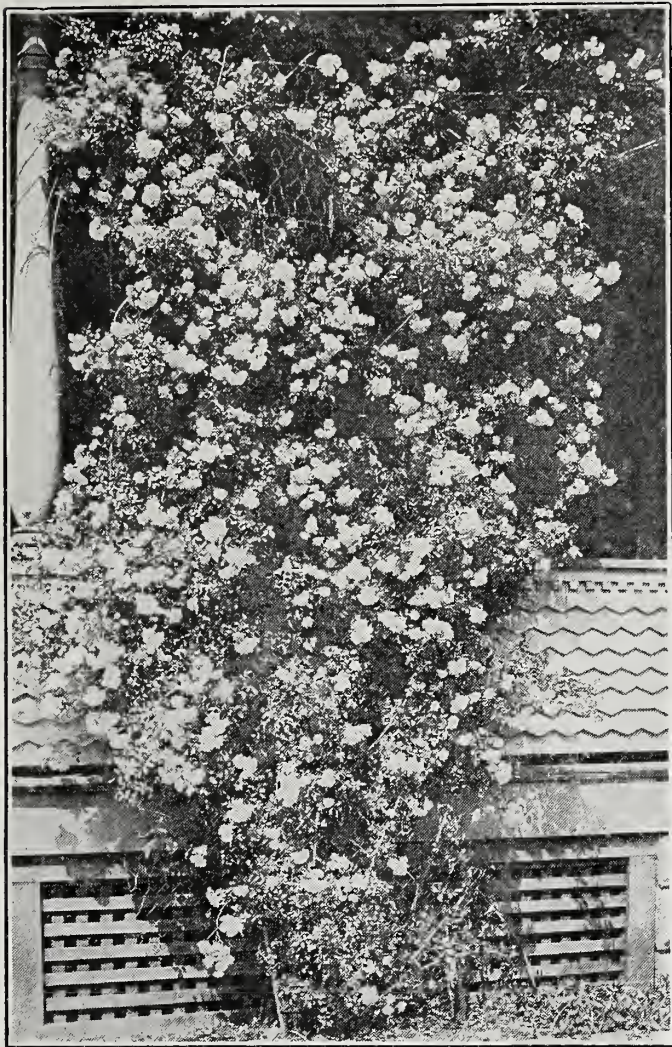
James Sprunt. Deep, cherry-red flowers, very full, double and sweet. The most satisfactory of the dark red, everblooming climbing varieties in this section, while it does not rank as high in the North, and for that reason has been neglected by nearly all northern growers.

Crimson Rambler. Plant is a vigorous grower, and makes a charming pillar Rose. The flowers are grown in great pyramidal panicles, having thirty to one hundred blooms from an inch to an inch and a half in diameter, and remain in perfect condition a long time. The color is fine, rich, glowing crimson. Makes a fine showing in May.

Climbing American
Beauty Rose



Vick's Caprice



Crimson Rambler

Climbing Marie Guillot. A magnificent white Rose, very large and double. A free bloomer and one of our best white Roses. A very strong grower; in fact one of the very best climbers.

William Allen Richardson. Color rich coppery yellow, shaded with a lighter yellow; the buds are of medium size. Blooms from April to December. This Rose is of peculiar form and color, and by many it is regarded as the prettiest of all Roses. The buds are specially beautiful.

Climbing Soupert. Pearly white, with pink center; blooms very profusely through the whole season. The flowers are of medium size and are produced in clusters. A fine climbing Rose.

PLANTING

Cut back one-year trees to a naked stem 2 to 3 feet high, leaving no side branches. Two-year-old trees should have their branches cut back to half or two-thirds or more of their length.

If a large orchard is to be planted, mark off the rows and plow them out with a turning plow, making six furrows to the row, turning the soil out from the center; follow in each furrow with a subsoil plow. Where the trees are to stand in the middle or water furrow, throw in a light shovel of cottonseed, compost, stable manure, or a handful of high-grade guano. Stir this into the soil with a hoe, packing with the foot after the roots are well covered. By this plan large orchards can be set quickly and with little expense. Never plant a tree more than an inch or two deeper than it grew in the nursery.

Where a dozen or a hundred are to be planted, mark off where each is to stand. Dig a hole 3 feet wide and 1 foot deep. Fill this nearly half full of top soil. Then put in the fertilizer and stir this thoroughly with the soil. Set the tree on this mixture, and fill up with top soil, packing well after the roots are covered. Water should be poured in when the roots are partly covered. This will settle the soil among the roots and keep them moist. Avoid placing the roots in contact with any considerable amount of manure, especially guano. Stake firmly, and protect from rabbits. Remove all labels, wires or cords; they will cut the tree when it grows.



Richmond Cherry Orchard in Bloom

Distances for Planting

Apple Trees, 20 to 30 feet.
 Peaches, 15 to 25 feet.
 Plums and Pears, 15 to 20 feet.
 Cherries and Apricots, 18 to 20 feet.
 Mulberries, 30 to 50 feet.
 Grapes, 8 to 10 feet.
 Scuppernongs, 30 feet.
 Pecans, 50 to 60 feet.

Trees Required to Set an Acre

10 x 10 feet,	435
15 x 15 "	193
18 x 18 "	134
20 x 20 "	108
25 x 25 "	69
30 x 30 "	48
40 x 40 "	27
50 x 50 "	17
60 x 60 "	13

CULTURE

The spring following planting, the soil should be plowed deep and thoroughly and as close to the trees as practical without disturbing the roots. During the first two or three years trees should be plowed and hoed regularly and thoroughly. As they get older the cultivation should be more shallow, especially near the trees. In no case should any of the main roots be torn up by the plow. Keep the soil clean and well stirred. Peas, cotton, potatoes, etc., can be planted to good advantage until the trees are ten years old. Such crops as corn and all kinds of small grain

should be avoided. Fruit trees yield to good or bad treatment, just the same as any farm crop, and the man who gives them careful and proper attention will be surely and abundantly rewarded.

Grapes and other plants should be planted and cultivated in same manner as fruit trees.

SELECTION OF VARIETIES

There are thousands of varieties of apple, peach, pear and other trees. Many of these are excellent, some fair and some very near worthless. A long complication of varieties is useless and tends to puzzle the buyer as to what to plant.

A few of the choicest, ripening throughout the season is much better. For this season we have listed a limited number of select varieties, which we consider best for their respective seasons, after nearly 40 years of experience and observation.

For commercial orders, of course the best market sorts should be used, and we will furnish special information regarding these on request.

THE BEST KIND OF TREES TO PLANT

Medium-sized, thrifty one-year-old trees are by far the best for all purposes. Old or overgrown trees should be carefully avoided. In taking up such trees it is impossible to avoid cutting off a large part of their roots,

and in transplanting it is necessary to cut the tops back in proportion to make it live. The result is a post, which can not be expected to grow off like a medium-sized tree, with practically all its roots and most of its body. A smaller tree can be cut high or low, as desired, and trained in the required shape. Large trees do not come into bearing any earlier than smaller ones. Very small trees should also be avoided.

SPRAYING

The importance of spraying can hardly be overestimated.

Fungus, scale and insect diseases are so plentiful and often so destructive as to make the successful growing of fruit well nigh impossible without something to keep them in check.

It is true it costs a little and is some trouble to spray, but if it is well done it pays the highest interest on the time and money invested of anything connected with fruit growing, whether on a large or small scale.

Spraying must be well and properly done. If half done or wrongly done, no good will be accomplished and much damage is liable to follow.

Scale, rot, worms, etc., have no terror whatever for those who are prepared to spray, and sound, highly-colored, fine fruit is the certain result.

Commercial orchardists these days would no more think of leaving off spraying than they would cultivating, and if it is essential for the large orchard, why not the small one also, as spraying machines are made to meet all conditions and requirements.

AUTHORITIES ON SPRAYING

All of the states now have Entomologists and all have Experiment Stations. Both are for the purpose of gathering information and supplying it to those who want it. Both issue bulletins from time to time on various

subjects, spraying being one of the main ones, and for the asking you can get full and complete information for the control of all tree and plant diseases. The Government at Washington also has an Entomologist who will supply desired information free.

Do not hesitate to ask for what you want, as that is what they are for.

A careful study along this line will bring you information that will not only mean dollars and cents, but life-long pleasure and satisfaction.

SPRAYING MACHINES

Spraying machines may be bought of a dozen different manufacturers, who make them of all sizes, for all requirements.

The addresses of some of these are as follows:

Gould Mfg. Co., Seneca Falls, N. Y.; The E. C. Brown Co., Rochester, N. Y.; Field Force Pump Co., Elmira, N. Y.; Hardie Mfg. Co., Hudson, Mich.; The H. L. Hurst Co., Canton, O., and many others. Write any of these for prices and particulars of their machines. When you buy, get a good machine, as you will need it as long as you live, and there will be no economy in getting one you can barely make out with. In writing, tell them how many and what kind and size trees you have to spray, and they will tell you the kind of machine you need.

SPRAYING MATERIALS

There are several makers of the various ingredients needed in spraying. Among them we name a few, as follows:

Thomson Chemical Co., Baltimore, Md.; B. G. Pratt Co., 50 Church St., New York City. Either of these concerns can supply anything you want, and they will supply full directions for using their various products.

They both have agencies and distributing points all over the country,

and will advise you nearest place where you can get it.

APPLE INSECTS AND DISEASES

Codling Moth.—A pinkish-white grub or worm, hatched from an egg laid on leaf or fruit by the parent moth, which enters the apple through the side or blossom end and tunnels out the flesh or core, causing the apple to drop or reducing its market value. The feeding activities of the grub begin early in the spring and continue until the fruit is harvested. Spray (1) with one pound powdered arsenate of lead and five quarts of commercial lime-sulphur solution (or its equivalent) to fifty gallons water immediately after bloom petals have fallen; (2) two weeks later with same; (3) four or five weeks later with 4-4-50 Bordeaux (Formula XI) to which one pound of powdered arsenate of lead has been added. The first spraying is the most important to control codling moth and should be done thoroughly and on exact schedule time. A fourth summer spraying with Bordeaux mixture and arsenate one month before fruit ripens is necessary to insure best results.

Green Apple Aphis.—A small, bright green plant louse or aphid which attacks the leaves of the terminal growth and fruit clusters, causing them to blacken, curl and shrivel and, in severe cases, stopping the wood growth. Affected apples completely cease growing and become knotty and worthless. The lice hatch in the early spring before the leaves appear from eggs laid on the wood the preceding fall.

The winter spraying with lime-sulphur solution against San Jose scale (which see) is effective in killing the eggs and young lice if applied in late winter, just as the leaf buds are swelling. When applied exactly at that time Black Leaf 40 (nicotine sulphate) should be added at the rate

of one part to 500 parts of dilute lime-sulphur solution. Lice appearing on the young leaves in early spring may be destroyed by spraying with Black Leaf 40, one part to 750 parts water, to which soap has been added at the rate of one pound to fifty gallons of water. Do not wait until the leaves become curled, but spray when the lice first appear.

Rosy Aphis.—So called from its rose colored body. This louse works similarly to the green aphis, the principal difference being its color, somewhat larger size and comparative ease of control. The same spray schedule should be followed as for the green apple aphis.

Curculio.—The principal injury this beetle causes to the apple is the knotty, distorted development which follows the laying of the egg and the russetting of the area immediately around the egg punctures as the apple enlarges. This injury is done when the apples are very young and is controlled by the same measures recommended against codling moth.

Bitter Rot.—A disease which appears first on the fruit usually when it is about half-grown, as black, soft, watery spots which rapidly enlarge, followed by the shriveling and decomposition of the apple into a rotten mass. To control it, only repeated and thorough sprayings are effective, especially as regards varieties of apples that are subject to attack. Spray as for the codling moth (which see) for the first three applications and follow with at least one and preferably two applications of Bordeaux and lead arsenate at intervals of four weeks.

Directions for preparing Bordeaux are given on last page.

Blight.—A disease which attacks the blooms, twigs, limbs, trunk and fruit of the apple tree. It works in the sap, killing back terminal and bloom twigs and sometimes girdling

the tree, killing it outright. Aphids may aid in spreading this disease, hence they should be controlled by spraying in early spring. Does not respond to spraying and can be controlled only by systematic pruning. When pruning an affected tree the instrument should be disinfested after each cut in a solution of bichloride of mercury, one to one thousand, or in formalin, one pint to thirty gallons water. Each cut should be made several inches back of the point where the injury apparently stops. Blight winters over on the tree in reddish sunken spots. These spots should be searched for and wherever found cut out and around and the wound painted over with a strong solution of lime-sulphur or other germicide.

PEACH INSECTS AND DISEASES

San Jose Scale.—A minute sucking insect covered with a hard, black or grayish scale. The first signs of its presence on a tree are the purplish discolorations of the bark around the insects and the pitted appearance of the bark which follows the sucking of the sap. A badly infested tree is ashy gray in color as though dusted with ashes. This scale insect multiplies and spreads very rapidly and, under favorable conditions, can easily kill a young tree in two or three years after becoming infested. As it is well protected by its tough, hard coat, only the strongest insecticide sprays are effective against it. Because of their strength and burning effect upon foliage, such sprays can be applied only during the winter while the tree is dormant and without foliage. Lime-sulphur solution, soluble-sulphur powders and water-soluble oil preparations are most commonly used as a winter spray against scale. Concentrated lime-sulphur solution prepared and ready for use after dilution with water, is perhaps to be preferred by most growers because of its availability, dependability, and the fact that

it is also a fungicide. There are one or two brands of soluble oil on the market which possess a high order of merit against scale.

Peach-tree Borer.—A white grub or worm which works under the bark and in the sap wood of the crown and trunk at or just under the surface of the ground. An attacked tree usually has a mass of jelly at its base at the level of the soil. Small trees are frequently girdled and killed and any tree harboring the grubs is always more or less injured. Important to fight this borer regularly to protect the life of the tree and to continue it in bearing. Worming of the trees is the best and most certain method.

Treatment. — First mound the trunks of the trees not later than the latter part of July to a height of 10 to 12 inches. Beginning the middle of October, pull the dirt away from the tree and scrape and worm it with a worming hook, throwing all dirt and gum well to one side. This work requires care and thoroughness and should be done each year at the times indicated.

Curculio. — A small white grub or worm which feeds within the peach and is familiar to every one. Most frequently found in ripe fruit, particularly of the later maturing varieties.

Spray immediately after the shucks are off the young fruit with three-fourths of a pound of powdered arsenate of lead and three pounds lump lime (previously slacked in water) to 50 gallons of water. Again three weeks later with self-cooked lime-sulphur (see directions for making) and one-half pound powdered lead arsenate. On mid-season varieties of peaches, such as Elbertas, a third spraying should be made one month before ripening of the fruit, using the same formula suggested for the second summer spraying. Atomic sulphur, a ready made formula, may be

substituted for self-cooked lime-sulphur.

Brown Rot.—A disease which attacks peaches when they are ripening. It appears as soft, watery, brown spots which rapidly enlarge and become covered with a downy mildew growth, the seeds of the disease. While it is a serious and destructive disease in unsprayed orchards during hot, moist weather, it is easily and completely preventable by spraying. Use the same schedule and formulas recommended for the control of curculio (which see).

Scab.—Appears early in the season on peaches as circular brown or black spots. Does not extend deeper than the skin, but makes the fruit unsightly and lowers its market value. Can readily be prevented by spraying. See schedule for the control of curculio.

Leaf Curl.—Appears on the leaves of peach trees early in the spring and is readily seen and recognized. Affected leaves become thickened, twisted, bloated and of a sickly pale color, mixed with red. As the diseased leaves drop within a short time, the tree is forced to put on a new lot to replace them, thereby weakening the tree and reducing the size of any fruit that may be on it. This disease is very destructive in cold, wet spring weather in unsprayed orchards.

Treatment.—It can be absolutely prevented by winter spraying with lime-sulphur as for San Jose scale (which see), made not less than two weeks before the leaves begin to put out in the spring. Winter spraying with soluble oils will not prevent the appearance of leaf curl the following season.

Spraying materials in condensed form and ready for use can be had at any of the fruit growing centers and at most large drug stores everywhere. If these are unknown,

any Experiment Station or State Entomologist can direct you to them.

Directions for use are always supplied with the materials.

Bordeaux Mixture.—This is the most important fungicide we have for general use.

Copper sulphate (Bluestone) --- 4 lbs.
Lime (fresh unslacked) ----- 4 lbs.
Water ----- 50 gals.

Place the copper sulphate in a gunny sack and suspend in 25 gallons of water. In another barrel slack the lime and add water enough to make 25 gallons. Pour the two, together, into a third barrel or into the spray tank, letting them mix as they enter this container. After mixing, the solution should be used immediately.

Self-Boiled Lime Sulphur.

Lime (fresh unslacked) ----- 8 lbs.
Sulphur ----- 8 lbs.
Water ----- 50 gals.

Make sulphur into a paste by adding small amounts of water and stirring until it is thoroughly moistened. To this paste add about 2 gallons of water, then add the lime. Stir well, adding just enough water to keep mixture from becoming too thick and to further prevent burning. When lime is all slaked add water to stop further cooking. Dilute to 50 gallons. Strain carefully. Used particularly against brown rot of the peach.

Commercial or Concentrated Lime-Sulphur.

One of the best sprays for San Jose Scale, and also a cure for Peach Leaf Curl.

This is difficult and troublesome to make at home, and it is better to buy it, which can be done at any fruit growing center, and at most large drug stores. Dilute with water, 1 to 8. For summer spray against apple scab, bitter rot, etc., dilute $1\frac{1}{4}$ or $1\frac{1}{2}$ to 59 gallons of water. Never use as a summer spray on peaches.

Dusting, for Brown Rot and Curculio in peaches and plums.

	1st	2nd	3rd
	Dusting	Dusting	Dusting
Sulphur -----	10%	80%	80%
Arsenate of lead	5%	5%	5%
Hydrated lead --	85%	15%	15%

Use at same time as Self-Cooked Lime Sulphur is used, for same purposes.

A dusting machine must be used in handling above formula.



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